

**Bighorn River System Issues Group
Meeting Summary
Lovell, Wyoming
March 13, 2008**

Welcome

The meeting began with introductions around the room and including power customer, Daniel Payton, General Manager of Western States Power, attending by phone from Colorado. Facilitator, Barb Beck, explained that based upon the group's decision at the previous meeting, this meeting will focus solely on operations. The agenda has been designed to provide the participants with a hands-on experience, a simulation, running the model to manage water releases from Yellowtail Dam. The Bureau would like to make their decision-making process more transparent and also encourage input on operations decisions. Lenny Duberstein reminded participants that the final decisions about water management will still be made by Reclamation, after considering input from group members, other state and federal agencies, and the public. He stated this will be the start of the conversation on the criteria used by Reclamation for making operation's decision. At some point in the future, perhaps in time for fall operations decisions, there may be agreement on these. Lenny hoped that meeting participants would have a better understanding of the concept of "conservation of mass" following the simulation.

Operating Decision Criteria

Gordon Aycock with Reclamation gave a short presentation reviewing the joint use pool and then explained the criteria the Bureau currently uses to make operations decisions. The following are the multi-purpose considerations in the decisions.

Legal Requirements

Senior water rights for April to October require 1400 cfs for river flow, 400-550 cfs for Bighorn Canal.

Contractual Commitments

PPL Montana: 6000 acre feet/year as called for, or 100 cfs mid-August through September. Currently 30000 acre feet/year for Northern Cheyenne Tribe remains undeveloped. Additional water for the Crow Tribe is also undeveloped at this time.

Power Generation

Reclamation tries to minimize spills or other releases that bypass the power turbines. That means limiting power plant discharge to a maximum of about 4500 cfs. This retains power peaking capability, optimizes power plant efficiency, and provides higher generation levels during peak seasonal demand periods: July-August and December-February.

Lake Recreation

The optimum lake level during the summer recreation season is 3630 to 3640 feet. Horseshoe Bend needs elevations at 3617 feet or higher to allow use of ramps – originally it was 3593 feet. Barry's Landing and Oka-Beh, at or above 3580 feet (originally was 3586 and 3596.)

Black Canyon campground – need to limit lake level to 3642 feet to prevent flooding.

River Fishery

The flow target is 2500 cfs. At 2000 cfs, spawning is limited. Only main channel habitat is supported at releases of 1500 cfs. The minimum base flow is 1000 cfs.

Waterfowl

For waterfowl in the reservoir, a level of 3635 feet is desirable during the fall.

Multi-purpose lake elevation targets are September-October 3635 feet, end of March 3605-3614 feet, and July 3640 feet.

Agency/Other Input

Prior to this meeting, Reclamation asked work group participants to offer their desired lake levels or flows. Stephanie Hellekson introduced the responses and displayed the spreadsheets for the group to view while each representative explained what they would like to see.

WY Game and Fish: (Mark Smith)

Reservoir fisheries management is very complex. Fishing occurs in the reservoir year round. 3620 feet is the optimum lake level; if the level drops to 3615 feet, people have to walk a long way onto the ice. There was a silt survey done in 2000, which is now outdated, so these figures may not be accurate. Do not want to drop below 3620 feet in order to maintain fisheries, because it fills side channels, and also, the reservoir is very thin in areas as far as width. The time frame/growing season they have available each year to maintain a good fishery is short, four to five months. During this short time frame, the reservoir fills quickly, creating turbidity, which isn't conducive for growth of fish/organisms.

Montana Fish, Wildlife, and Parks: (Ken Frazer)

3620 feet is optimum for reservoir fishery in Montana. Adequate flows for the river fishery would be 2000 cfs. Going down to 1500 cfs creates many new problems and angler crowding.

National Park Service (John Keck)

3620 feet is the optimum lake level for recreation. During peak season, 3630-3640 feet would be the best level. This benefits concessionaires and the public. If water level goes lower, people do not want to get on the water.

WAPA (John Gierard)

Water is needed for 1) marketing, and 2) for reliability. Power is contracted through 2024.

Bighorn County, Friends of Bighorn Lake (Keith Grant)

Optimum level in the lake would be 3640 feet for recreation and 3635 feet for fisheries. The noxious weed tamarisk is also an issue. Tamarisk consumes a great deal of water.

Reservoir Operation Simulation Exercise

Participants broke into four groups each with a technical facilitator to run computer models on releases from the dam. The groups had difference assignments with respect to what to maximize.

Group No. 1: Stephanie Hellekson, Reclamation Technical Facilitator

Assignment: Maximize river fisheries.

Ended up short on water and spent a lot of time trying to readjust it out. They at first had started out with flows of 2000 cfs.

Group No. 2: Gordon Aycock, Reclamation Technical Facilitator

Assignment: Maximize reservoir recreation

Tried to stay within 3630-3640-feet. Tried to work with the river flows and also the fisheries. Tried to set the spawning flows and had some trouble. Whatever they set the flow at, they looked at the forecast and picked a level where they would not have the reservoir level drop. Mid-July to October for rainbow, and then October for brown trout.

Group 3: Lenny Duberstein, Reclamation Technical Facilitator

Assignment: Meet all needs.

Started spring flows at 1750 cfs but weren't gaining elevation in the lake. Got to 3632-foot level on the lake. Did some readjusting to come up with better ending flows. Raised releases in mid-October from 1750-2000 cfs to provide for the brown trout spawn in the fall.

Group No. 4: Clayton Jordan, Reclamation Technical Facilitator

Assignment: Meet all needs.

Talked about adjusting release in the fall to reduce flows when algae is at its peak. Result was that they picked up almost 10 feet of storage in the lake. The model only allows modification of the river releases when there is a lot more to it. Observation made after working with the model that Reclamation did a good job of managing the water last.

Following the above report-outs from each small group, a scorecard presenting a simplified display of how the various interests were met was shown. The large group viewed the score cards for each effort. The small groups had mixed success with satisfying all interests when compared against the score card.

2008 Situation and Operations

Tim Felchle, Reclamation, explained that his group monitors inflows daily this time of year due to the possibility of rapid and dramatic changes in inflows. Questions were asked about inflows and operations of Buffalo Bill Reservoir and current soil moistures. The WY Area office responded. The overall situation for 2008 is looking promising.

Participants reported back to their small groups to look at 2008 with the current reservoir level and average inflows as the only information currently available. Comments included that ‘it seems like it would be easier to start with more water at the beginning of the year.’ Also need to include a river flushing flow of 2500 cfs. One group's chart showed starting at 3615, and ending up at 3617 at the end of March. End of March is a critical time to start working with reservoir levels, as you can still go up or down if you keep it at this level (before the actual occurrence of complete snowmelt in about May.) The Corps of Engineers works closely with Reclamation to make sure homes downstream are kept safe, especially at the time of full snowmelt. Discussion ensued about minimum levels to keep in the reservoir – 3614 to 3620 feet.

Clayton Jordan presented the numbers for two recent extreme years with respect to inflows. So, although average inflows are available for planning purposes, each year has the potential to be very wet or very dry during the critical period from April to June. Reclamation’s decisions must consider and be prepared for either of these two possibilities.

Next Steps

The group discussed whether to meet again prior to the spring operations decisions and decided that would not be necessary. Comment cards were provided in the lobby area for anyone to pick up and mail in. A request was made to receive the snowpack reports on spreadsheets. Lenny responded that Reclamation will be attempting to get that information on the website very soon. Someone asked about the status of the Crow Compact and potential impacts on the spring operations decisions. Reclamation is not aware that ratification will occur soon. Lenny offered his availability to the group for questions or discussions in the next two weeks if desired. The next issues group meeting date was tentatively set for May 21. The location will be in Montana.

Meeting Evaluation

Comments on the use of the simulation included:

- Would have liked to work more with the models,
- Would have been interesting to use extremes one way or another,
- The group liked the modeling and would like to do it again, even though much preparation is required.
- Would like to learn more about how forecasts are developed including the sources of information used. This topic will be included in the next meeting agenda.

Power Customer Comments

Mr. Payton who had attended by phone offered a few comments. The cost of the Yellowtail Project was \$116,000,000. Power customers are paying back approximately \$80 million of these costs. Irrigation customers are paying about \$20 million. These obligations will be paid off around 2015. Power customers have a great interest in the work of the issues group, want to be represented, and want to support the work if their interests aren’t adversely impacted. If reservoir operations change substantially, it could change their costs. They’d be looking for some changes on Reclamation’s part to reallocate that \$80 million in order to make up for it.